

I CLAIM:

1. A lightweight heat resistant and insulative composite product sheet, containing glass fibers, consisting essentially of:

- a) homogenized glass fiber and binder material forming a first layer,
- b) binder material extending in a second layer adjacent the first layer and bonded thereto,
- c) woven glass fiber facing cloth extending in a third layer adjacent the second layer and bonded thereto so that the second layer is sandwiched between the first and third layers,
- d) binder material in the layers being cured, to integrate the layers.

2. The composite sheet of claim 1 wherein the first layer has a wool-like composition.

3. The composite sheet of claim 1 wherein the first layer has a density of about $3/4$ pound per sheet cubic foot, the product sheet having from 0.25 to 4 inch thickness and from 0.5 to 4.0 pounds per cubic foot density.

4. The composite sheet of claim 1 wherein said second layer binder has a sprayed on and cured in situ configuration adjacent the first layer.

5. The composite sheet of claim 1 wherein the bulk of the glass fibers in said first layer have length between about 1 and 2 microns.

6. The composite of claim 1 wherein the first layer consists of about 80% by weight of glass fibers and about 20% by weight of binder, said fibers and binder being homogenized, said fibers having diameters between .00003 inch and .00015 inch.

7. The composite sheet of claim 1 wherein said first layer has a wool-like consistency, and a density between 0.5 and 4.0 pounds per cubic foot.

8. The composite sheet of claim 7 wherein said density is about 0.75 pounds per cubic foot.

9. The composite sheet of claim 1 wherein the facer cloth has a binder content of less than 10% by weight of said cloth, and is adherent to a surface of the second layer, so that the second layer is sandwiched between and integrates the first and third layers.

10. The composite sheet of claim 9 wherein the facer cloth has weight between 20 and 60 grams per square foot, and consists of woven glass fibers.

11. The composite sheet of claim 1 wherein the glass fibers in the first layer have diameters between .00003 and .00015 inch.

12. The composite sheet of claim 1 which has density of from 0.5 to 4.0 pounds per cubic foot.

13. The composite sheet of claim 1 which has between 0.25 and 4.0 inch thickness.

14. The method which comprises:

- i. forming a composite sheet as defined in claim 1,
- ii. and including drying and curing said sheet, at elevated temperature, while being transported.

15. The method of claim 14 wherein said elevated temperature is between about 425°F and 475°F.

16. The method of claim 14 wherein said drying and curing at elevated temperature is completed during a time interval between 2 and 4 minutes.

17. The method of claim 14 including spraying said binder onto an irregular upper surface of said first layer.

18. The method of claim 14 wherein the binder consists of synthetic resin.

19. The method of claim 18 wherein said resin consists of phenol formaldehyde.

20. The method of claim 14 including progressively feeding said facing cloth onto said sprayed on binder layer just prior to said step ii) of claim 14.

21. The method of claim 14 wherein the binder consists of synthetic resin.

22. The method of claim 19 wherein the resin consists of phenol formaldehyde.

23. The assembly which comprises a metallic panel, fasteners projecting from the panel, and the product sheet of claim 1 applied to the panel to form a facing, with the fasteners projecting through the product sheet.

25. The assembly of claim 23 including holders on the fasteners to hold the product sheet against the panel.

25. The assembly of claim 24 wherein the fasteners comprise studs, and the holders comprise washers received on the studs, and caps frictionally retained on the ends of the studs to hold the washers in position.